

Fig. 1A

FIG. 1B is a block diagram of a computer system 100. The computer system 100 includes a CPU 122, a Main Memory 132, a ROM 134, a Storage 136, a Floppy Interface 138, a Keyboard 140, a Pointing Device 142, a Device interface 124, a Display interface 126, a Network interface 128, and a Printer interface 130. These components are connected to a central Data Bus 120.

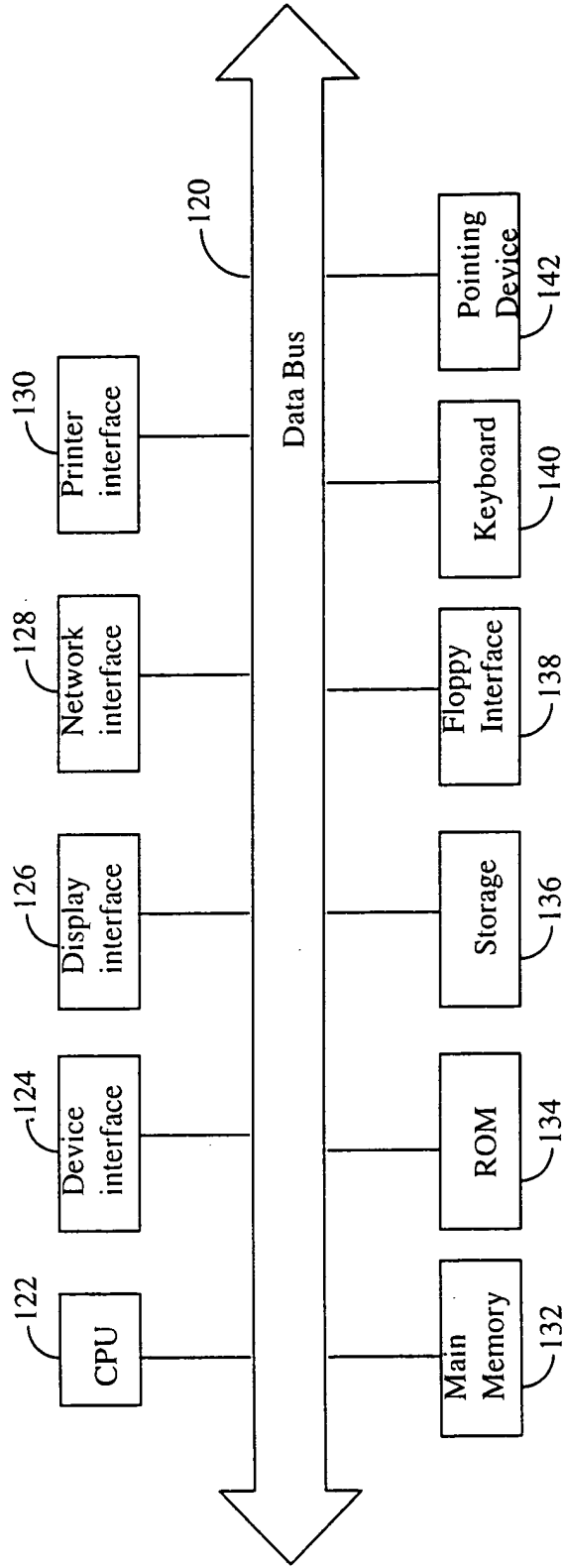


Fig. 1B

FIG. 2A is a schematic diagram of a system 200 for determining a position of a point 202 relative to a reference point 204. The system 200 includes a coordinate system 208 with axes X, Y, and Z, and a second coordinate system 206 with axes X' and Y'. The point 202 is located at a distance H_0 from the origin of the coordinate system 208. The point 204 is located at a distance Z_0 from the origin of the coordinate system 206. The angle between the Z-axis and the Z'-axis is denoted by α . The system 200 is used to determine the position of the point 202 relative to the reference point 204.

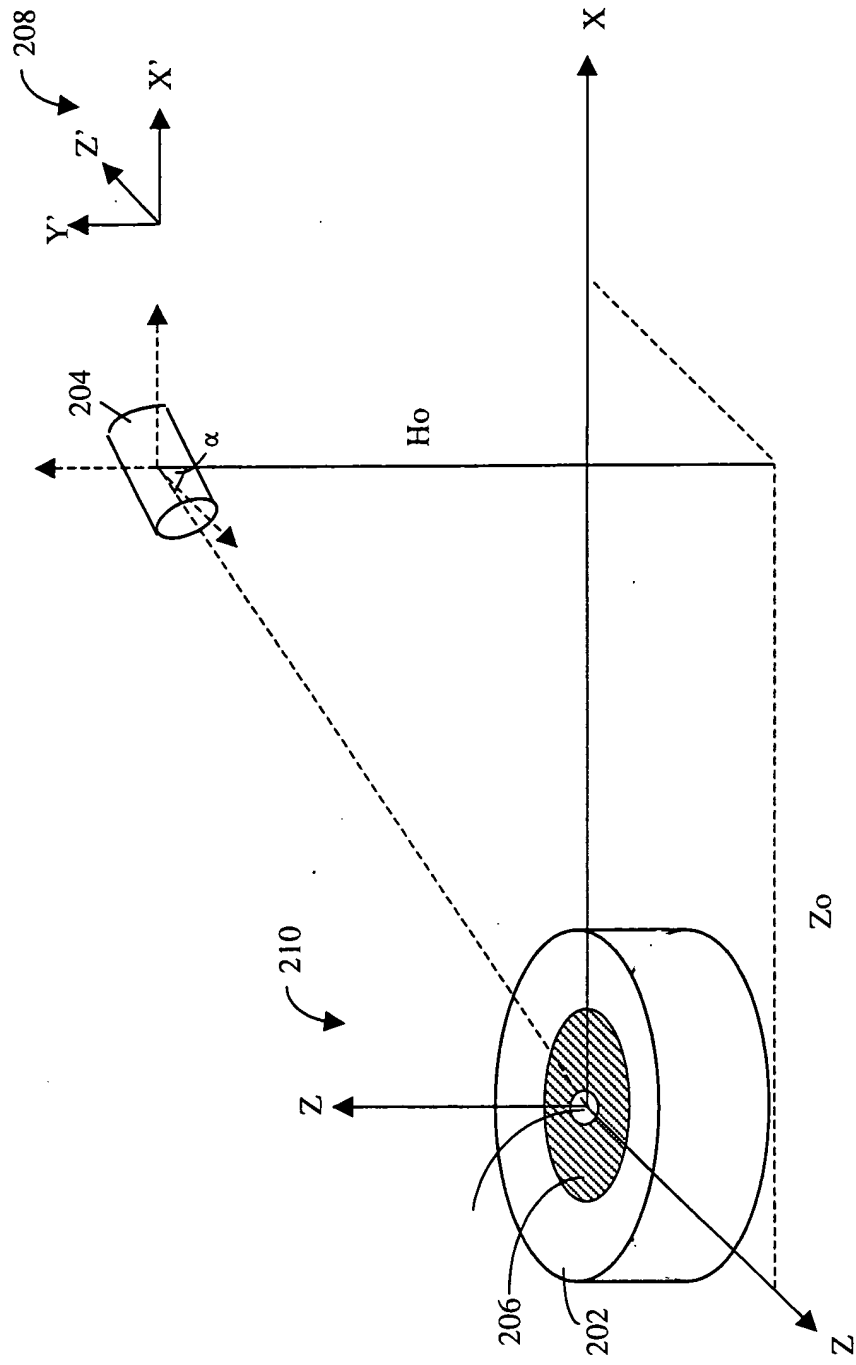


Fig. 2A

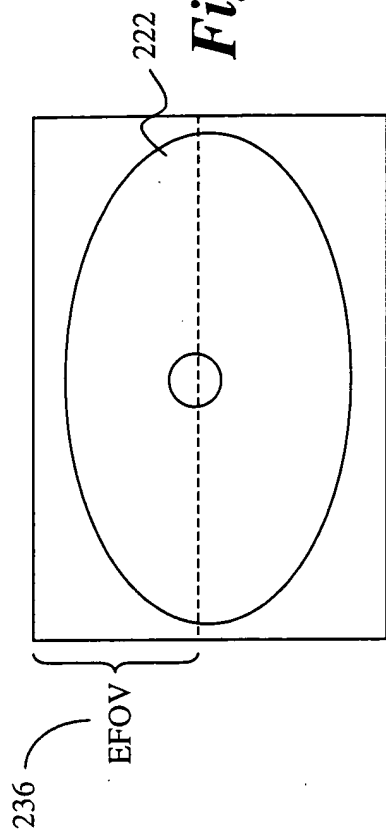


Fig. 2C

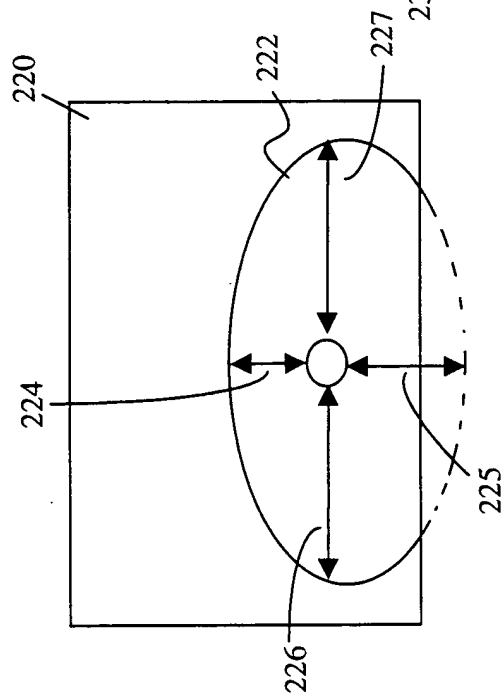


Fig. 2B

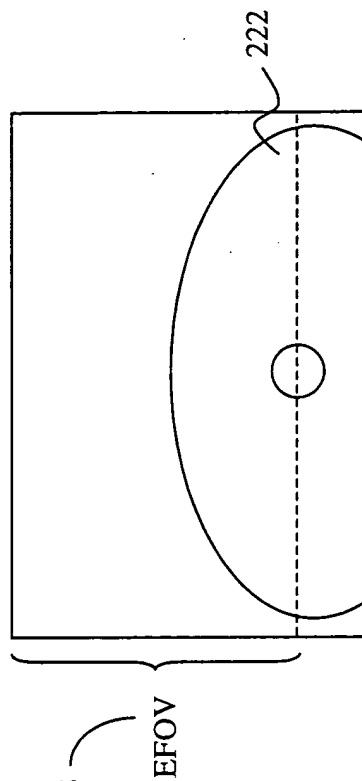


Fig. 2D

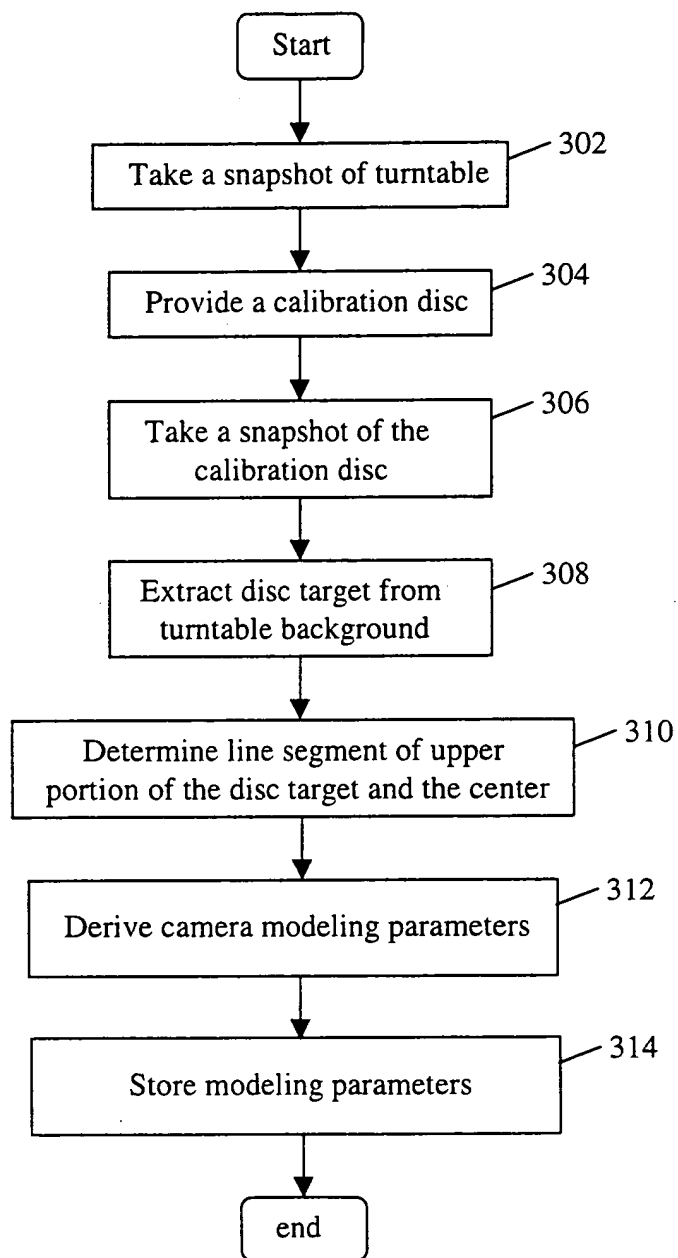


Fig. 3

FIG. 4 is a schematic diagram of a system 400. The system 400 includes a central component 402 and a plurality of peripheral components 404-1, 404-2, 404-3, ..., 404-n. The peripheral components 404-1, 404-2, 404-3, ..., 404-n are arranged in a circular pattern around the central component 402. The central component 402 is connected to the peripheral components 404-1, 404-2, 404-3, ..., 404-n via a dashed line. The angle between the dashed line and the horizontal axis is labeled θ .

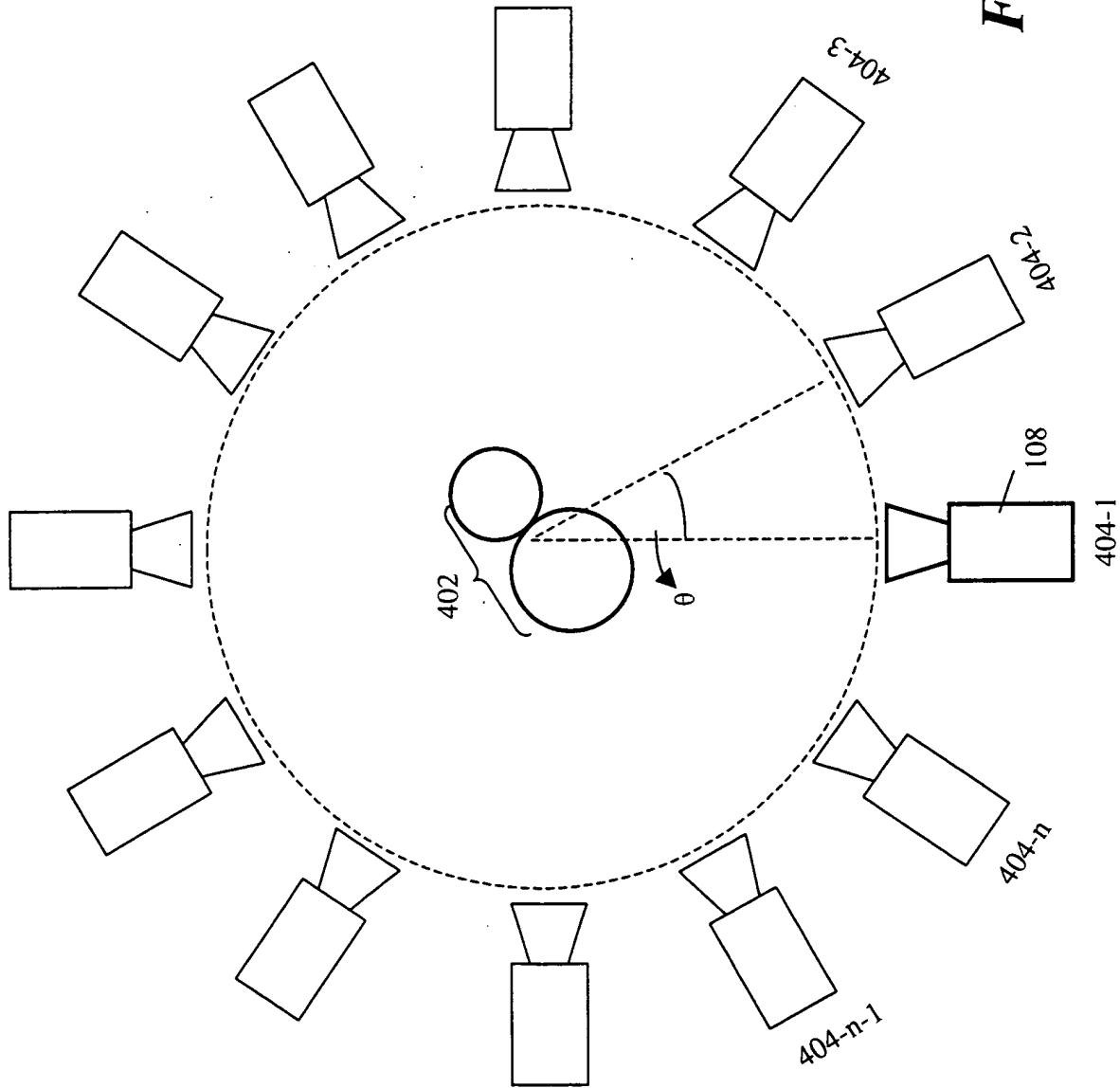


Fig. 4

FIG. 5 is a schematic diagram of a system for generating a 3D model of an object. The system includes a camera 502, a display 504, and a computer 506. The camera 502 is positioned to capture an image of an object 508. The display 504 shows the captured image 510. The computer 506 processes the image 510 to generate a 3D model of the object 508.

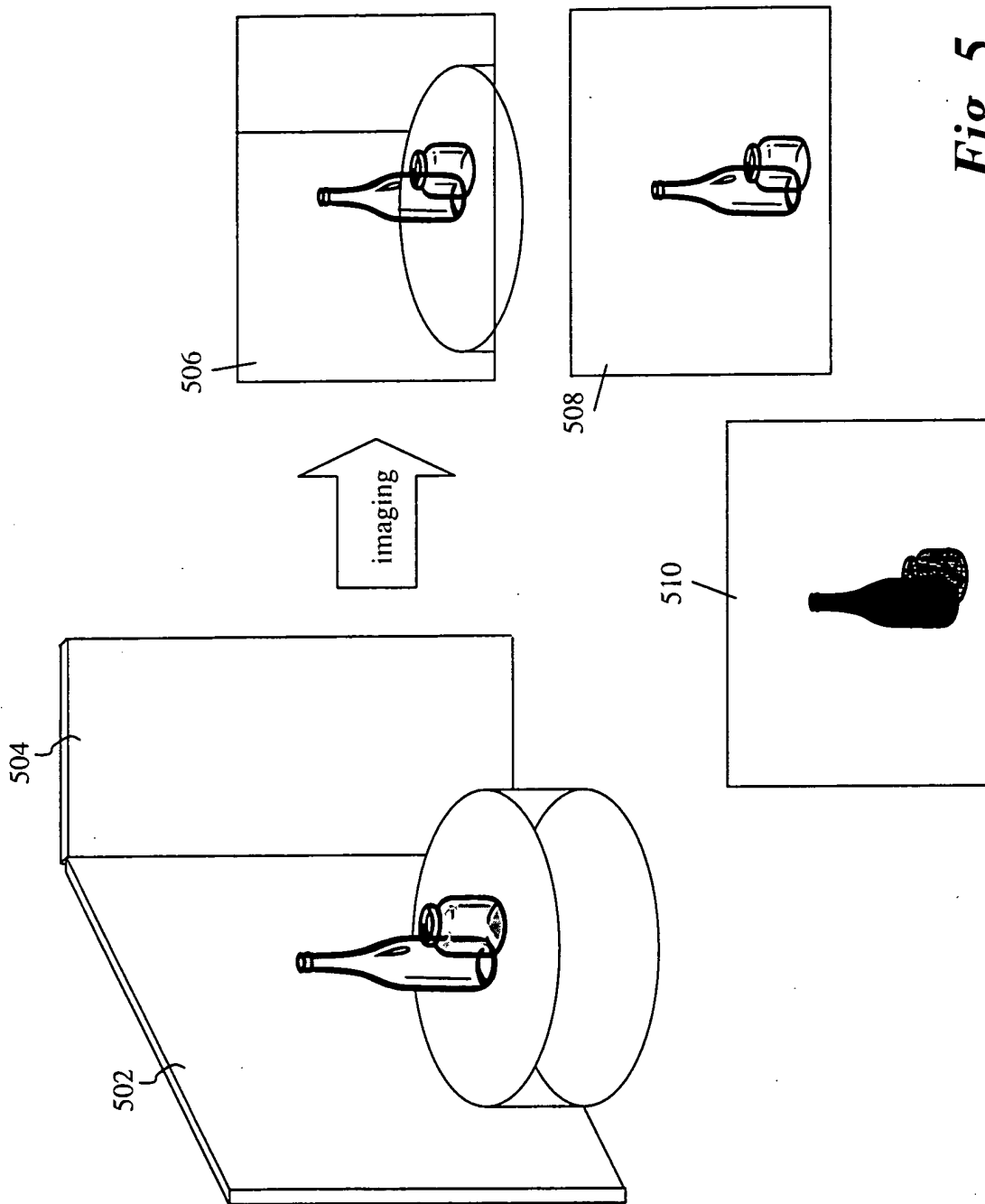


Fig. 5

FIG. 6A is a perspective view of a 3D grid 600 with a bottle 602 inside. A dashed circle 604 is drawn around the bottle. A rectangular box 606 is shown below the grid, containing a silhouette of the bottle. The grid is divided into a 3x3x3 cube.

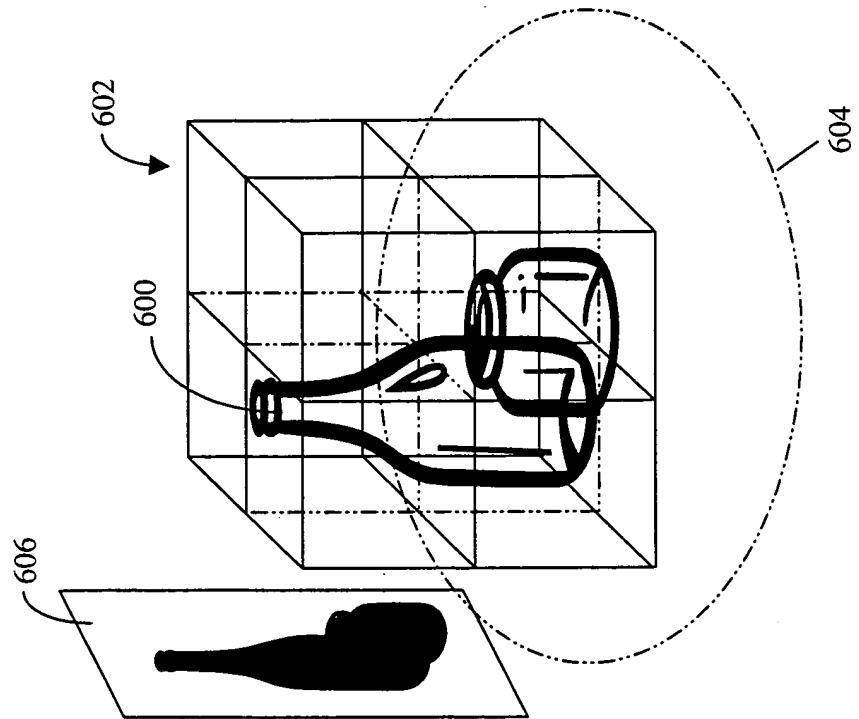


Fig. 6A

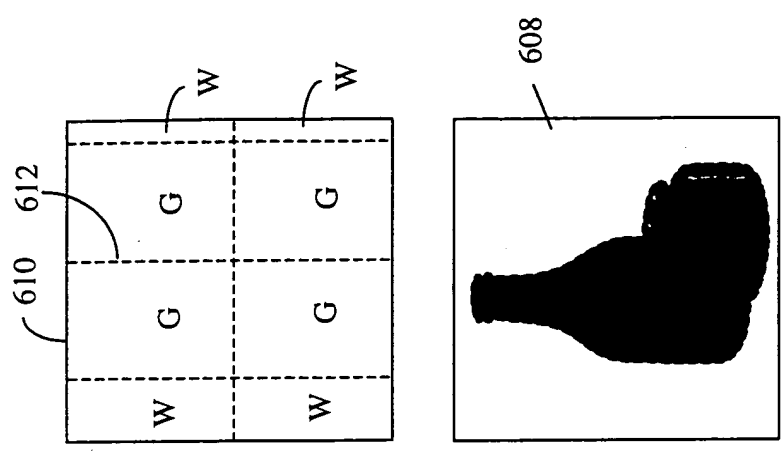


Fig. 6B

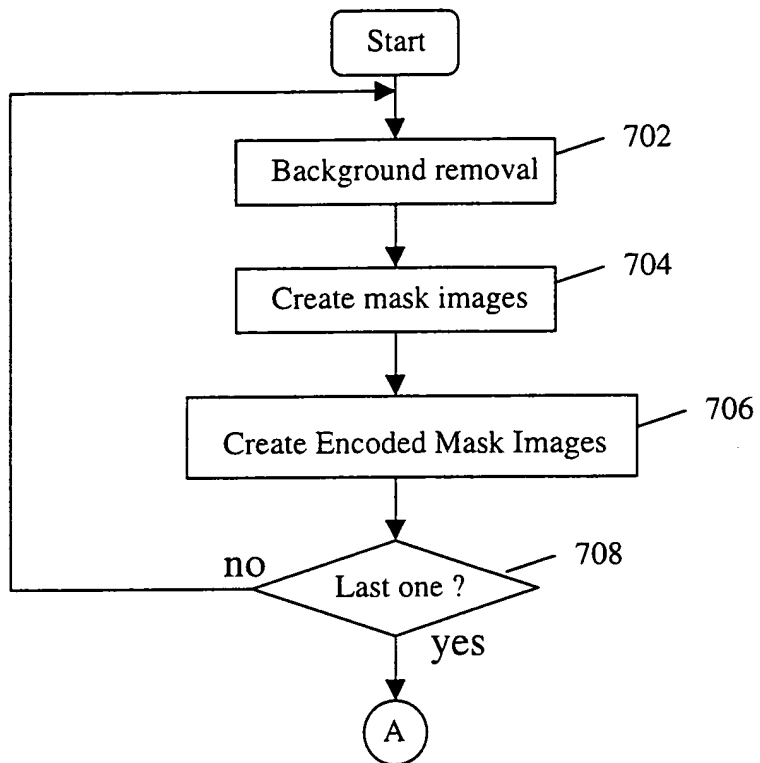


Fig. 7A

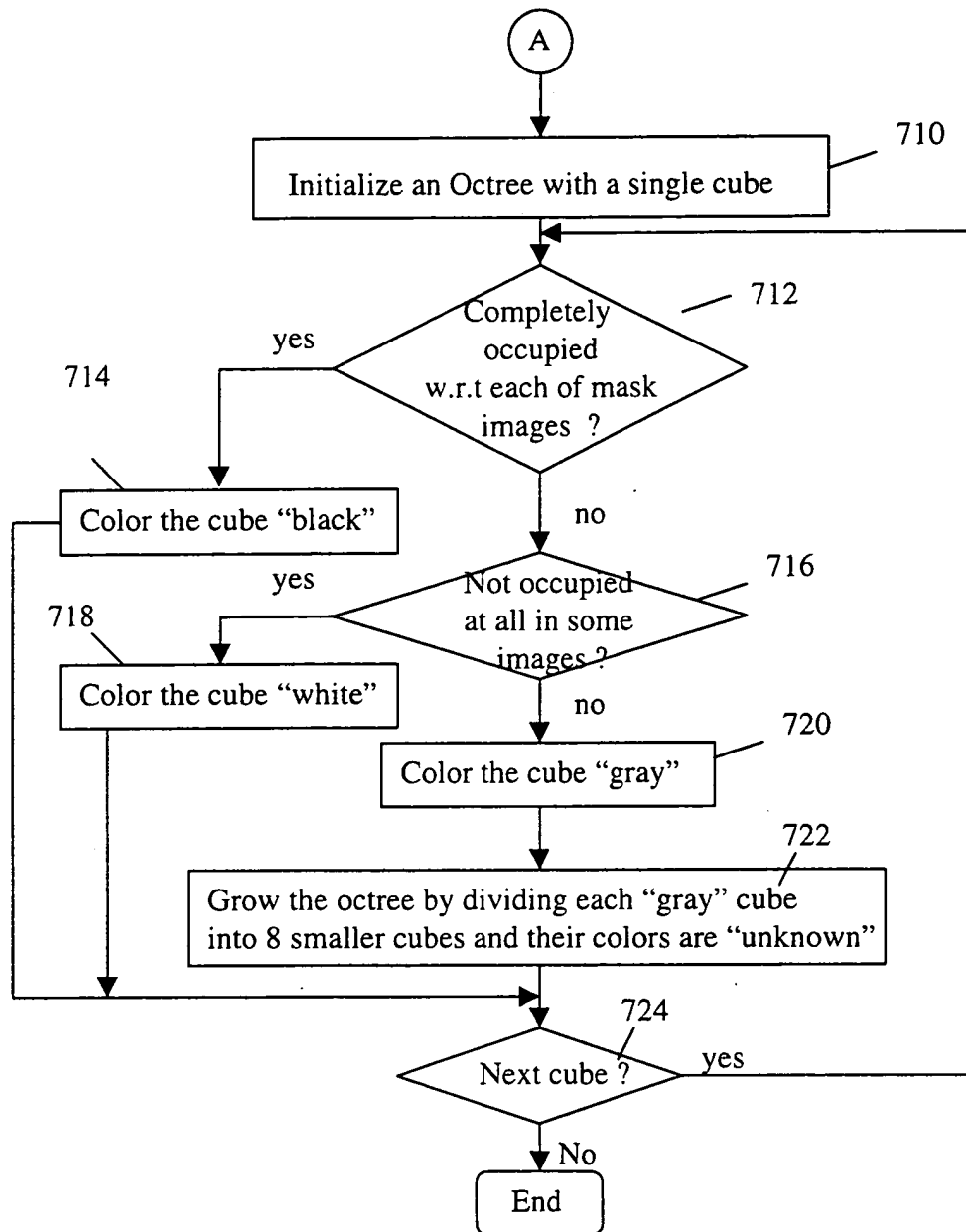


Fig. 7B

FIG. 7C is a block diagram of a system architecture. A central block 760 is connected to a series of blocks 762-1 through 762-8. Block 762-1 is further connected to a series of blocks 764-1 through 764-8.

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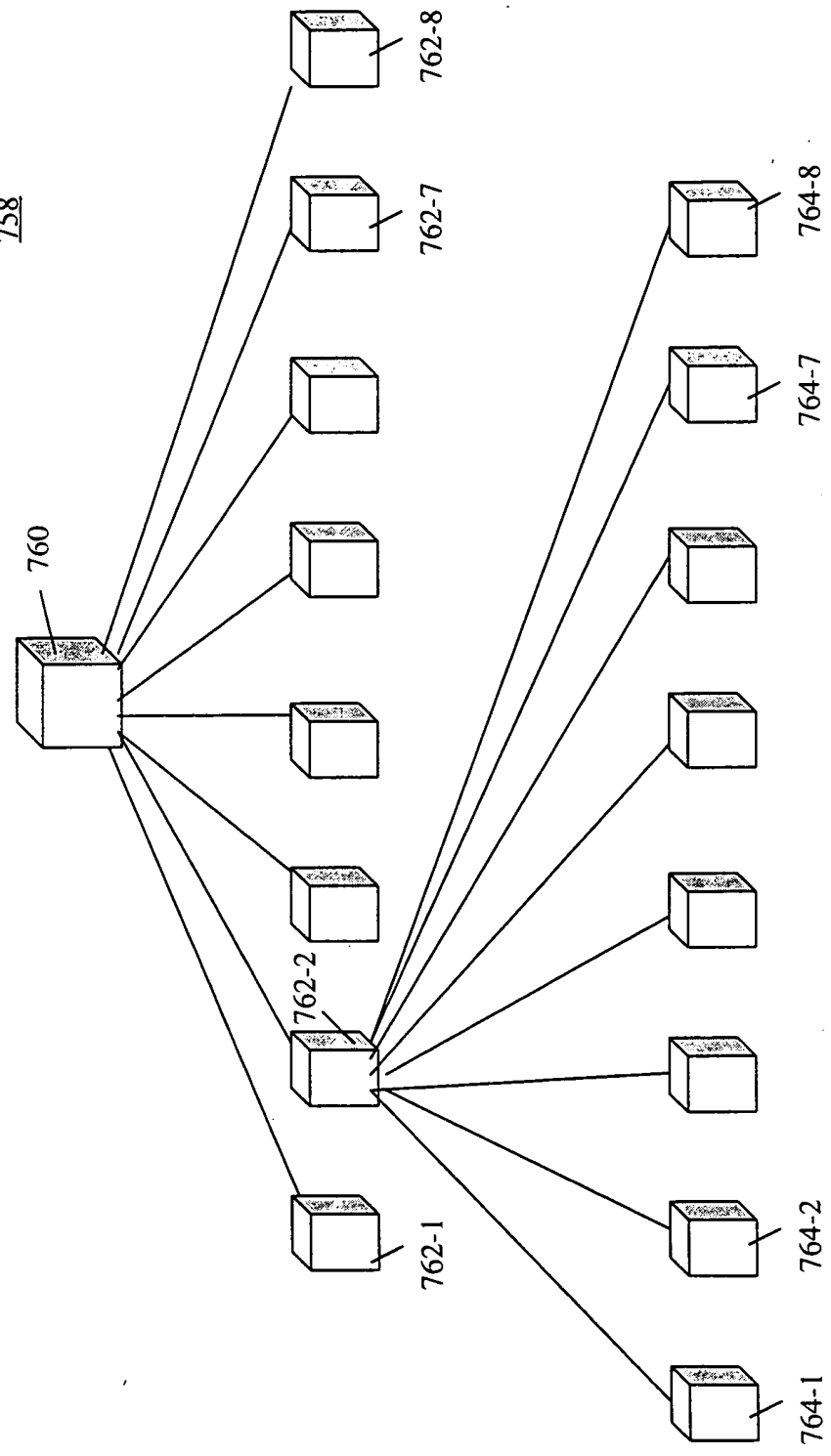


Fig. 7C

FIG. 8A is a schematic diagram of a system 800 for processing a 2D image 802. The system 800 includes a processor 804 and a memory 806. The processor 804 is configured to receive the 2D image 802 and process it to generate a 2D feature map 810. The memory 806 is configured to store the 2D feature map 810. The 2D feature map 810 is a 5x5 grid of numerical values. The values are as follows:

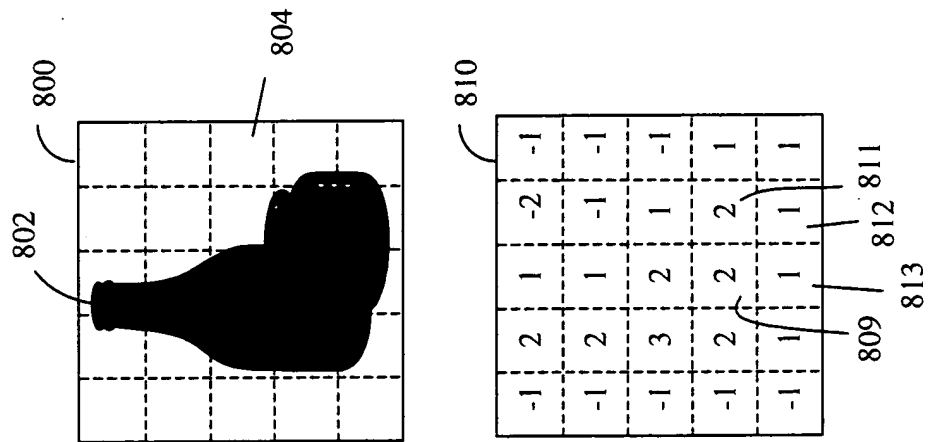


Fig. 8A

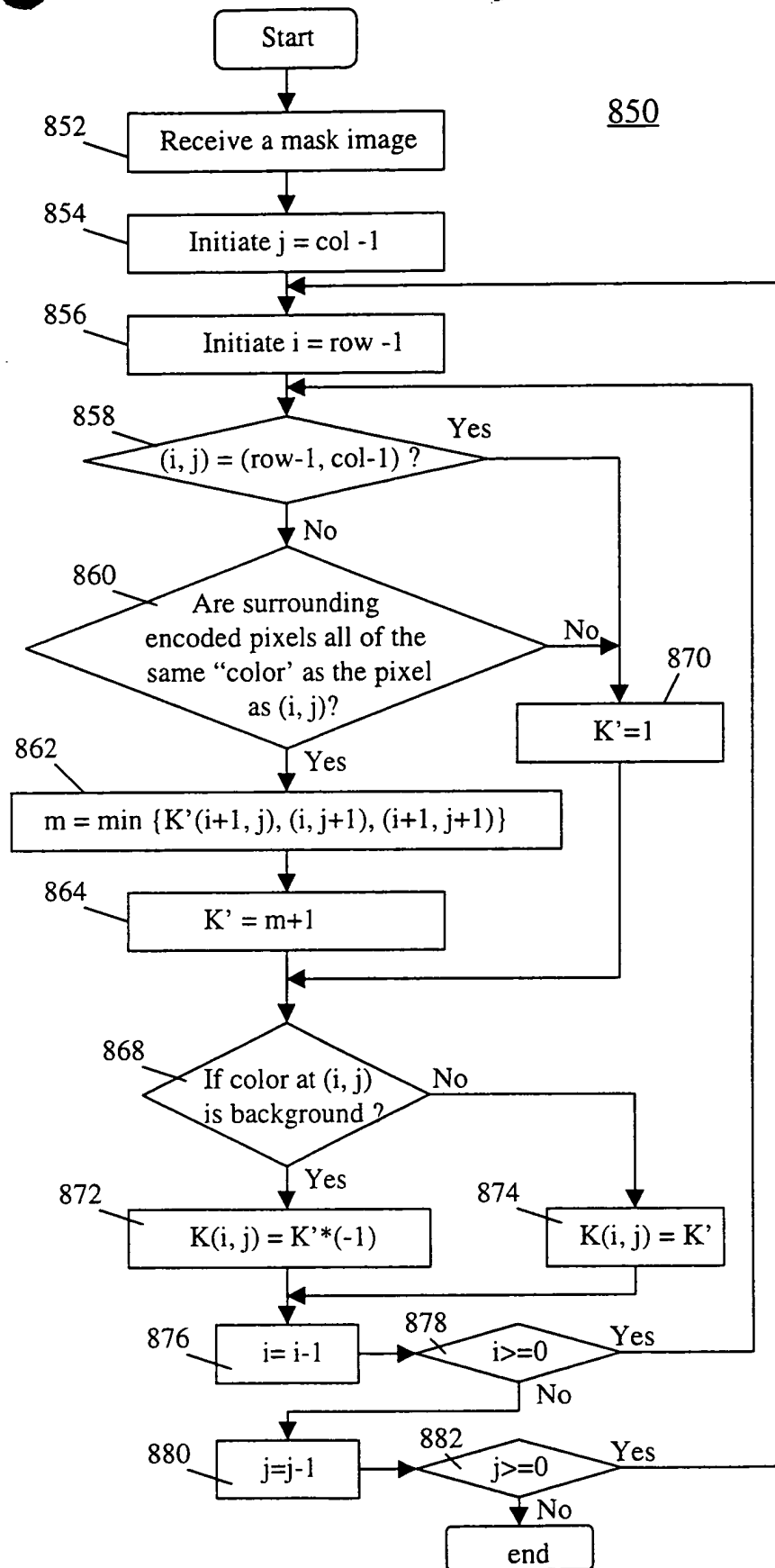


Fig. 8B

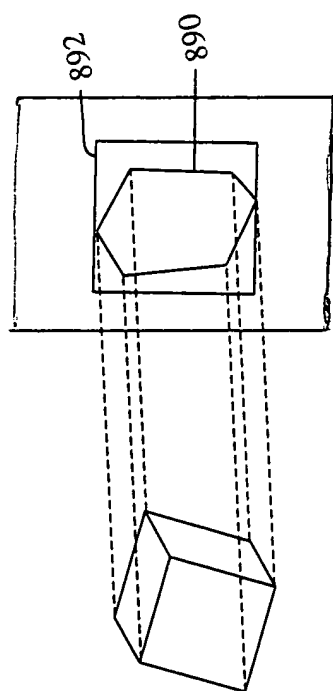


Fig. 8C

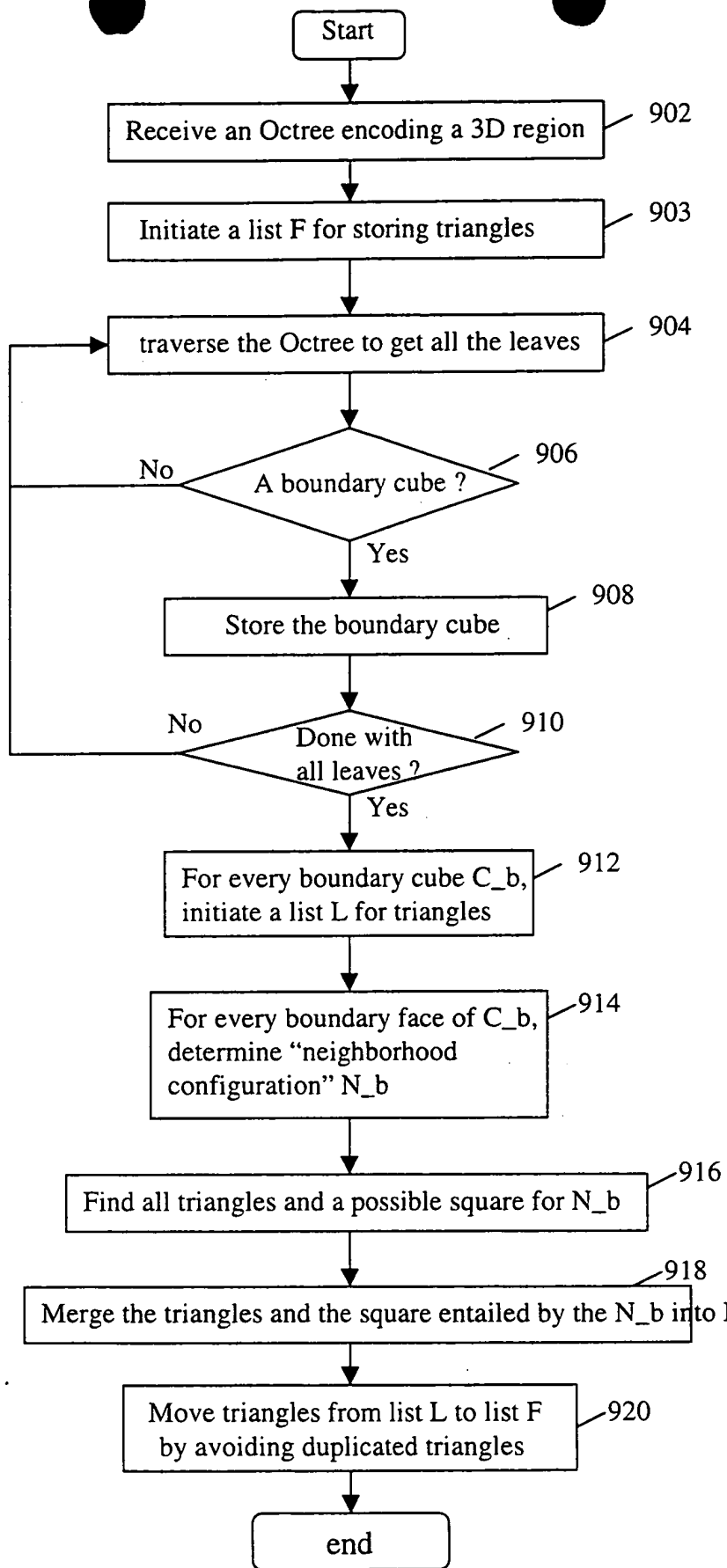


Fig. 9

Fig. 10A

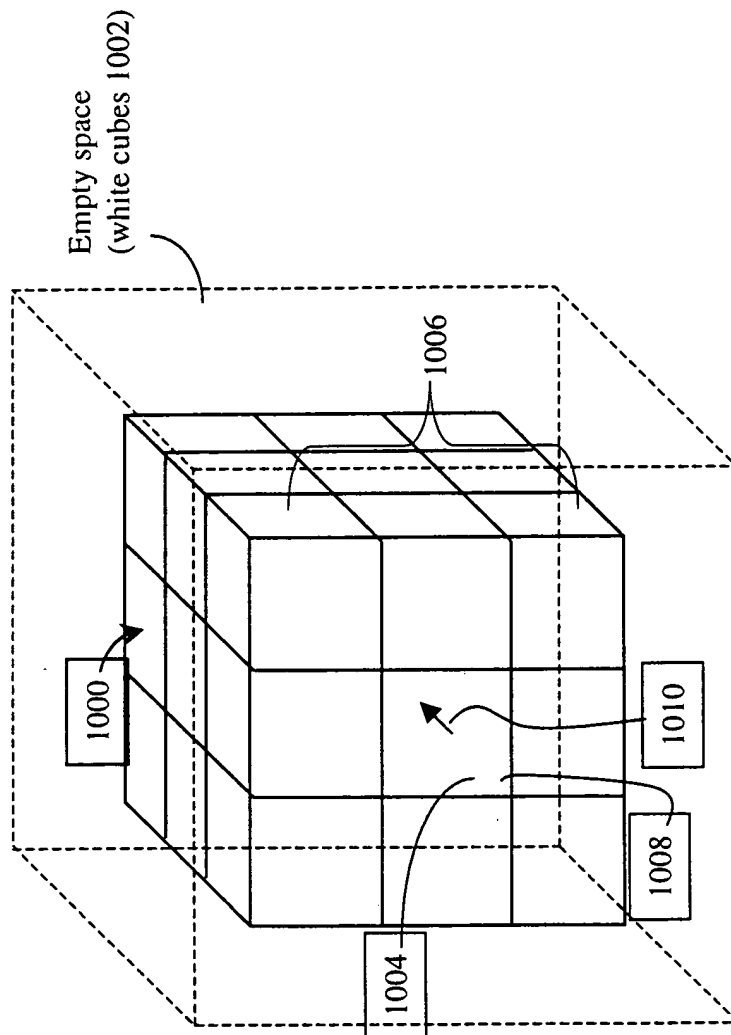


FIG. 10A is a perspective view of a 3D grid of blocks. A 2x2x2 cube is shown with a 2x2 grid of blocks on the top surface. The top surface is shaded with a stippled pattern. A 3D coordinate system is shown with the x-axis pointing to the right, the y-axis pointing upwards, and the z-axis pointing out of the page. A line labeled 1012 points to the bottom-left block of the top surface. A line labeled 1016 points to the top-left block of the top surface. A line labeled 1018 points to the top-right block of the top surface. A line labeled 1014 points to the top-right block of the top surface.

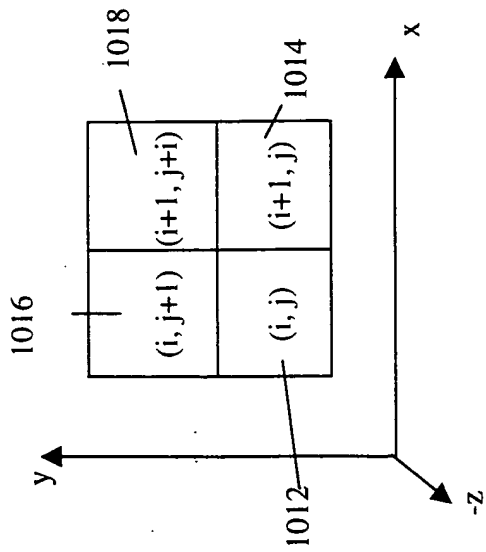


Fig. 10B

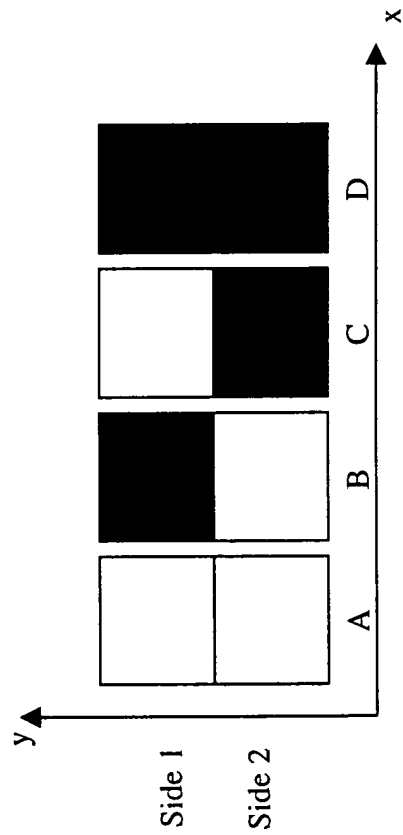


Fig. 10C

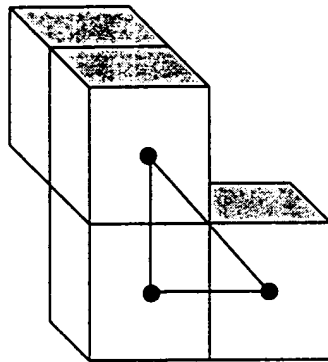
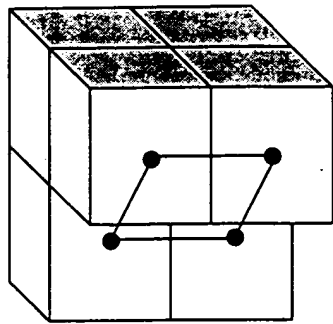


Fig. 10D

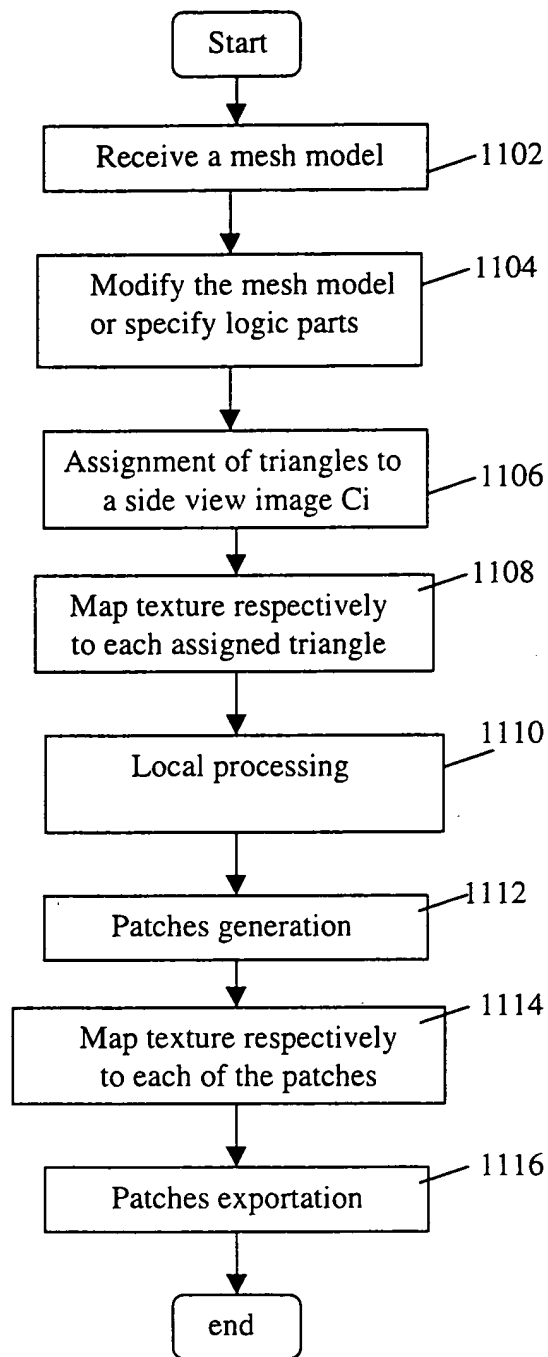


Fig. 11A

Fig. 11B

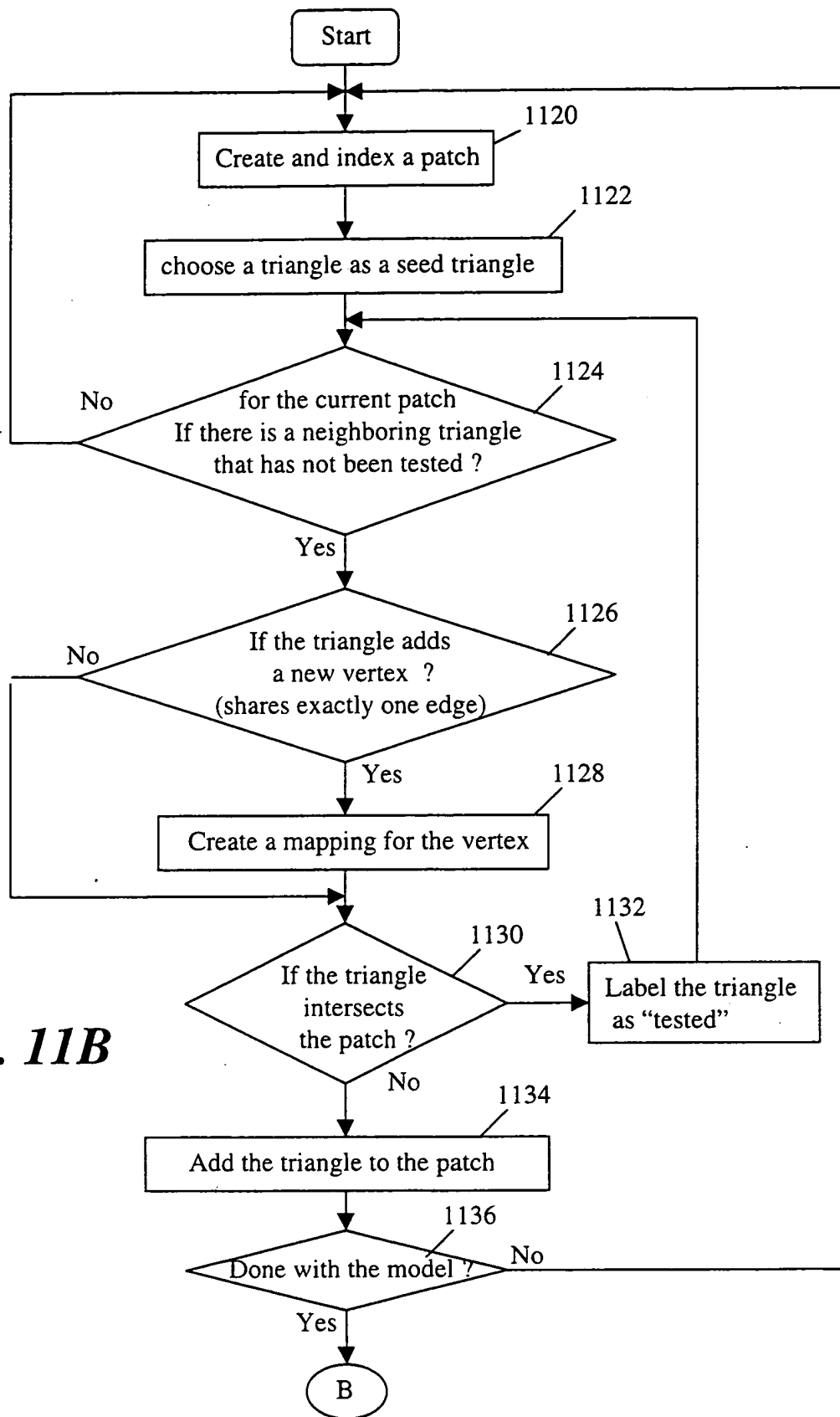


FIG. 12A is a perspective view of a polyhedral structure 1200, which is a truncated octahedron. The structure 1200 is composed of 14 faces, including 6 hexagonal faces and 8 square faces. The faces are labeled 1202, 1204, 1206, 1208, 1210, 1212, 1214, 1216, 1218, 1220, 1222, 1224, 1226, and 1228. The structure 1200 is shown in a perspective view, with the front face 1202 and the top face 1204 being hexagonal, and the side faces 1206, 1208, 1210, 1212, 1214, and 1216 being square. The back face 1218 is also hexagonal, and the bottom face 1220 is square. The structure 1200 is shown in a perspective view, with the front face 1202 and the top face 1204 being hexagonal, and the side faces 1206, 1208, 1210, 1212, 1214, and 1216 being square. The back face 1218 is also hexagonal, and the bottom face 1220 is square.

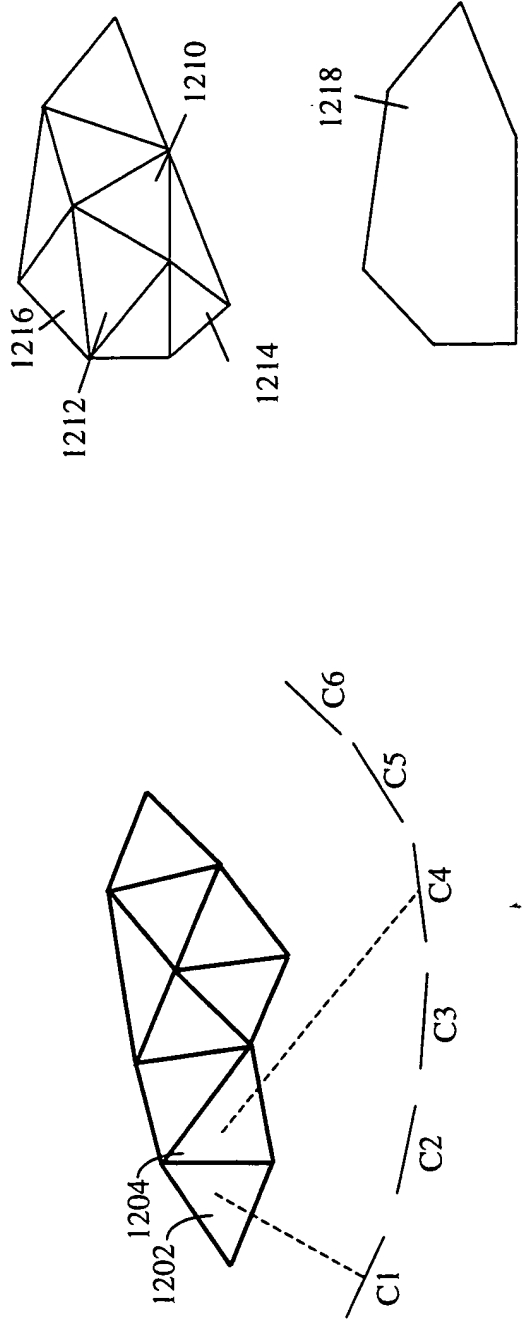


Fig. 12A

Fig. 12B